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Affinito

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(54) **PLASMA ENHANCED CHEMICAL DEPOSITION WITH LOW VAPOR PRESSURE COMPOUNDS**

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(*) Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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(58) **Field of Search** 427/488, 489, 427/509, 515, 562, 569, 255.6

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(57) **ABSTRACT**

Generally, the apparatus of the present invention is (a) a flash evaporation housing with a monomer atomizer for making monomer particles, heated evaporation surface for making an evaporate from the monomer particles, and an evaporate outlet, connected to (b) a glow discharge electrode creating a glow discharge plasma from the evaporate, wherein (c) the substrate is proximate the glow discharge plasma for receiving and cryocondensing the glow discharge plasma thereon. The method of the present invention has the steps of (a) flash evaporating a liquid monomer an evaporate outlet forming an evaporate; (b) passing the evaporate to a glow discharge electrode creating a glow discharge monomer plasma from the evaporate; and (c) cryocondensing the glow discharge monomer plasma on a substrate and crosslinking the glow discharge plasma thereon, wherein the crosslinking results from radicals created in the glow discharge plasma and achieves self curing.

29 Claims, 3 Drawing Sheets